

Sections	Adopted Date
Introduction, Review Authority Purpose, Use of Standards, Review Authority	March 97
Site Planning Open Space, Setbacks, Building Orientation and Siting, Pedestrian Circulation, Public Amenities	March 97
Exterior Features Emergency Access, Fire Protection System, Controlled Access Security Gates, Refuse Storage, Fences and Walls, Lighting, Sewer System, Site Grading, Drainage	March 97
Building Design, Architecture Scale, Rhythm, Building Facade, Colors and Material, Windows and Door Placement, Screening	March 97
Parking & Traffic Circulation On-Site Roadways, On-Site Sidewalks, Minimum Access Requirements	March 97
Driveway Design Criteria	March 97
Surface Parking Design, Queuing, Internal Circulation, Parking Structure Design	March 97

Introduction

Purpose

The purpose of the Design Standards is to articulate community design principles, guidelines and standards for development within the City of Las Vegas in order to assist site planners and designers in understanding the City's minimum design criteria for on-site development. The intent is to enhance the community's overall value and appearance and to achieve well-designed projects. Because it is recognized that design professionals, including architects, landscape architects, and land planners, are trained to strive for creative excellence, the design criteria established herein are not intended to restrict creative solutions.

Because Las Vegas is a dynamic, fast growing city, it is expected that this document will continue to evolve as the City refines its policies and objectives. Amendments will enable the Standards to be modified and improved, based on Las Vegas' actual experience of growth and citizens' evolving concerns.

Use of Standards

This Design Standards will be used in reviewing projects for conformity with the overall community design objectives and consistency with the Las Vegas Municipal Code. The Standards are to be used in conjunction with the laws, ordinances and development standards of the various City departments and agencies. The information contained herein does not negate the adopted laws and ordinances of the Las Vegas Municipal Code. Where the general standards conflict with specific standards of other ordinances or codes, the specific standard will prevail.

In addition, adopted Planned Community and Planned Development Districts identify unique areas in the City and contain specific design standards which will be used in reviewing projects located within each of those districts. With regard to any design issue which is addressed in both this Design Standards and the Planned Community and Planned Development Districts design standards, the standard of the individual districts will prevail.

Review Authority

Each proposed development will be reviewed by representatives of the Department of Planning and Development, the Department of Public Works, the Department of Fire Services, and any other department or agency as determined by the Director of the Department of Planning and Development. It is the responsibility of the various department members to thoroughly review each building permit, Site Development Plan application, or other requests for development to ensure that the proposed development will meet the intent and purpose of the codes and regulations administered by that department and the Development Review Process.

A **site plan** should provide for the interrelationship of all elements on the site and the coordination of these elements with existing developments or natural features found on adjacent sites. The design process should include consideration of the impact on the City, the surrounding neighborhood, nearby streets, and adjacent properties. A thorough analysis of on-site features and full recognition of off-site factors which will influence the development are expected to be reflected in each set of plans presented for review. In complex situations, representatives of the City may request presentation of the site plan by the applicant.

Open Space

Private and common open spaces are to be provided in Residential Planned Development Districts and in multi-family residential developments. All open space should be designed to be accessible and usable by occupants of the development. Functional open space enhances circulation within a site and contributes to the site's aesthetic qualities.

Common areas should be accessible from all buildings and connected by a comprehensive, on-site pedestrian circulation system. Public open space recreation areas, plazas and courtyards should be located and landscaped to take advantage of solar orientation, provide protection from prevailing wind, and to afford summer shade and winter sunshine. Mechanical units should be screened from view.

Private usable open space should be directly accessible from the individual dwelling and be of such size as to offer a reasonable outdoor living opportunity. The placement of air conditioning equipment should not render private open space unusable.

Setbacks

Setbacks of buildings must conform to the setback standard required by the zoning district where the development is located. Where buildings affect sight lines at intersections of public and private streets, approval for development must be obtained from the City's Traffic Engineering Division.

Building Orientation and Siting

Placement of the building in relation to the **surrounding elements** is just as important as the design of the building. The proposed building orientation should respect the orientation of surrounding buildings, existing pedestrian paths and sidewalks, and the orientation of surrounding streets. Rows of buildings which create a monotonous, “cookie-cutter” design is discouraged.

The proposed building orientation should respect the **climatic conditions** by minimizing heat gain and considering the impact of shade on adjacent land uses and areas. Buildings should maximize public comfort by providing shaded public outdoor areas, minimizing glare, and facilitating breezes. Building exposures subject to solar intensity, should minimize the use of glass and provide landscaping and architectural surface relief to reduce heat gain on the building itself.

Buildings should be oriented to allow for the use of common driveways, especially along arterial streets, where a **reduction in the number of curb openings** will enhance the streetscape and promote traffic safety.

Service areas (loading docks, refuse collection areas and similar facilities) which could be sources of odor, noise and smoke, or could be visually objectionable, should not be located in highly traveled areas.

Remote **outdoor ordering systems**, used in conjunction with fast food restaurants and similar retail uses offering a drive through service, shall be located a minimum of 100 feet from any residential property areas. Such speaker systems shall also be designed to direct the sound away from residential properties. **Other noise producing businesses**, such as automotive repair facilities, shall be designed so that the entrance to the service bays and other areas where the noise is produced, are oriented away from residential properties.

Buildings should be oriented so that the entrances are clearly identifiable and directly **accessible** from a sidewalk. Buildings should be accessible for pedestrians and public transit users, not just for people driving private automobiles.

On commercial sites, especially large retail centers, a portion of the total building area should be located near the street perimeter. Such siting reinforces the streetscape and helps to provide additional screening for large parking areas. Where large numbers of parking spaces are required, parking structures with decorative sidewalls are encouraged.

Pedestrian Circulation

The site plan should clearly express the **separation between pedestrian and vehicular traffic**. Clearly defined buffers enhance the attractiveness of the streetscape and promote pedestrian safety. In developments where substantial traffic volumes occur on certain stretches of on-site drives, a sidewalk may be necessary to separate pedestrian and vehicular traffic.

Pedestrian **circulation layout** on any development site should take into account all off-site generators of pedestrian movement, such as open spaces, schools, retail centers, bus stops, etc.

Surface accent strips of brick or textured paving to define pedestrian walkways should be utilized. Pavement intended for pedestrian traffic shall be stable, firm and skid resistant and shall not have an irregular surface that is uncomfortable or dangerous to walk on.

Provisions for access for **disabled persons** must be incorporated into the overall pedestrian circulation system. The overall design shall be in compliance with the most current disability access laws, in particular the Americans with Disabilities Act.

Sidewalks and plazas should be made comfortable for use by pedestrians through the use of landscaping, overhangs and canopies in order to provide shade and non-heat absorbing materials.

Public Amenities

Comfortable and attractive **street furniture** that is accessible to the physically disabled should be provided in public spaces for public enjoyment and comfort. Street furniture may include seating and tables, drinking fountains, trash receptacles, information kiosks, and directories. These types of pedestrian amenities help to encourage the use of public space.

Where the development is located on an established **bus route**, bus turn-outs and shelters should be incorporated in the site design.

All site amenities should be accessible to the physically disabled. All facilities should be usable by everyone.

Emergency Access

All developments shall provide **emergency access** as required by the Department of Fire Services. Fire apparatus access shall be in accordance with the Uniform Fire Code as adopted by the City. Such standards include the following:

- The **unobstructed width** of a fire apparatus access road shall not be less than twenty feet.
- Fire apparatus access roads shall have an unobstructed **vertical clearance** of thirteen feet six inches.
- The **turning radius** of fire apparatus roads shall be as follows: forty-five feet outside radius and twenty-two feet inside radius.
- Fire apparatus roads shall be asphalt or concrete and shall be designed to support the **imposed loads** of a forty thousand pound vehicle. Curb cuts and/or driveway approaches are required for all required fire access roadways.
- In accordance with Public Works standards, all **dead end fire apparatus access roads** and/or fire lanes, public or private, in excess of 150 feet in length shall be provided with a turnaround area.
- Two remote means of **fire apparatus access** may be required when the Department of Fire Services determines that a single access could be impaired.
- The location of **emergency access gates** shall be subject to the approval of the Department of Fire Services. Emergency gates shall be designed in accordance with the City's adopted emergency access gate design.

Fire Protection System

A fully **operational fire protection system**, including fire apparatus roads, fire hydrants and water supply, shall be installed and functioning prior to construction of any combustible structures, as required by the Department of Fire Services.

Fire **hydrant markers** shall be placed at each fire hydrant as required by the Department of Fire Services.

Maximum spacing between fire hydrants shall be:

	No Sprinklers	Sprinklers
Residential Structures	500 Feet	600 Feet
Commercial and Multi-family Structures	300 Feet	400 Feet

Controlled Access Security Gates

Controlled access **security gates** are allowed on private streets, but such gates shall not impede fire or emergency access. Gate access must be in accordance with the Fire Services standard for vehicle detection/access systems. Emergency access codes must be provided to Fire Services and the Las Vegas Metropolitan Police Department. Security gates systems, including guard shelters, shall be set back to provide sufficient queuing area for a minimum of three regular sized vehicles entering the development. Uniform Standard Drawing No. 222A provides appropriate driveway geometry at security gates.

Refuse Storage

All trash receptacles should be of **sufficient size** and number to accommodate the trash generated.

All **exterior trash receptacles** in commercial, multi-family, or industrial zoning districts should be screened from public view on three sides; and, on the fourth side, by a gate which also screens the receptacles from view. The gate shall be maintained in good working order and should remain closed except when in use. The screening should be decorative and architecturally compatible with the surrounding structures. Landscaping should be used to soften and screen the enclosure. The location should be conveniently accessible for trash collection and maintenance but set back sufficiently from property lines to minimize disturbing neighbors. Trash enclosures shall be located behind the building setback line when adjacent to any single family lot. In no case shall a trash enclosure be located closer than 50 feet to a residential property line.

Fences and Walls

See the City's "*Landscape, Wall and Buffer Standards*" for more details.

Lighting

Security lighting should be provided to help ensure a safe environment. Parking lots should be designed with lighting to provide a minimum of two foot-candles of light at ground level. The public areas and sidewalks should be designed to provide a minimum average of one foot-candle of light at ground level.

Exterior lighting should be designed to **coordinate with the building** architecture and landscaping. Building-mounted fixtures should be compatible with the building facades. Overall lighting levels should be consistent with the character and intensity of existing lighting in the area surrounding the project site.

Security and parking lot lights, and **lighting for signs shall be shielded** or otherwise designed to ensure that light is directed downward and not onto adjacent properties.

The **type of light source** used should be consistent throughout a project. Lamps and light fixtures under carports and/or other **partially open parking areas** should be designed to prevent glare. All lamps in these areas should have lenses to diffuse the light. **Lighting within parking garages** should be designed to avoid external views of long expanses of exposed fluorescent light tubes.

Parking lot and security lighting should not exceed a **maximum of 15 feet in height**, including lamp, pole, and base within 50 feet of a residential district. Parking lot and security lighting should not exceed a maximum of 25 feet in height adjacent to nonresidential districts. The height of light standards at the perimeter of the site should respect adjacent property.

Sewer System

A “**private sanitary sewer system**” is defined as any element of a sewage collection system prior to discharge into any collection facility owned and maintained by the City of Las Vegas, and may consist of such items as laterals, clean-outs, grease traps, and combined collection drains. Unless otherwise noted below, private sanitary sewer systems shall be designed in accordance with the latest edition of the Southern Nevada “Design and Construction Standards for Wastewater Collection Systems” or the Uniform Plumbing Code. However, any system or portion of a system that is designed by the requirements of the Design and Construction Standards shall not be allowed to discharge into elements of a system that is designed by the requirements of the Uniform Plumbing Code.

Private sanitary systems in **private streets**, and systems requiring sewer line sizes 8 inches and larger, shall be designed in accordance with the requirements of the Design and Construction Standards for Wastewater Collection Systems. Private sanitary sewer systems which are located in parking lots or landscaped areas, and systems requiring sewer line sizes 6 inches and smaller, may be designed in accordance with the requirements of the Uniform Plumbing Code. Plans, details, and specifications shall be submitted with the plumbing development plans for approval by the Department of Planning and Development.

Site Grading

Sites should be designed to **minimize erosion**. Steep slopes, generally 3 : 1 or greater, should be stabilized with vegetation, rock or other measures.

Drainage

Building pads and **developed property shall be elevated** sufficiently to provide a positive drainage gradient toward the approved drainageways or drainage improvements. A drainage improvement shall have a minimum drainage gradient of one half of one percent unless otherwise approved by the Department of Public Works. A Technical Drainage Study, as outlined in the Clark County Regional Flood Control District Hydrologic Criteria and Drainage Design Manual, will be required for projects over two acres in size (including streets), areas within FEMA A flood zones, and areas in drainageways or prone to flooding.

Discharge from developing parcels should **mimic historical drainage patterns** and shall conform to the “Uniform Regulations for the Control of Drainage”. Overland flow should generally be conveyed through the site every 660 feet to minimize the impact to adjacent property owners. Where offsite grading is required or changes in drainage patterns significantly affect adjacent property owners, notarized letters will be required. When developing adjacent to regional flood control facilities or within a FEMA

A flood zone, Clark County Regional Flood Control District concurrence will be required. It is the City's policy to approve projects only if they can be removed from FEMA A flood zones. Drainage on the **on-site private roadways** shall be as required by the Department of Public Works. All on-site private roadways shall drain to either a storm sewer, a drainageway, or to a public street.

Whenever possible, **on-site drainage retention** should be integrated with the overall landscaping design. Integrating drainage retention with the landscape design can provide for more efficient use of water.

The owner is encouraged to review the project requirements with City Flood Control staff to determine available information relating to the project prior to start of design. Many neighborhood studies have been prepared that may assist the project engineer in the hydrologic analysis.

In general, no rigid design themes are established in Las Vegas, but it is desirable that there be some compatibility of scale, color, materials, or design motifs that will allow a project to blend into its setting. Selection of roof materials and color palettes can often be crucial in determining if a project fits the context of the area. However, some special districts within the city may have specific design standards.

Scale

Scale relationships must be carefully considered, and appropriate transitions provided where a change of scale is proposed or required. Stair-stepping building height, breaking up the mass of the building and shifting building placement can help mitigate the impact of differing building scales and intensities.

A proposed commercial or industrial building should also respect the scale of any adjacent residential buildings, and, where desirable, provide an **orderly transition** to the different scale of development. For example, the actual height and bulk of a two-story office building is usually greater than that of a two-story residence. These buildings will not normally be compatible in close proximity unless they are separated by distance, articulated elevation, or a landscape buffer/screen.

Buildings that are significantly taller, more brightly colored, or which otherwise differ in scale from their neighbors may be acceptable but they will require **justification** by the designer.

Rhythm

Building rhythm relates to the horizontal and vertical patterns expressed by architectural features such as cornices, columns, windows, doors, or variations in massing. New developments should respect rhythms established by adjacent buildings. Designers should employ several related rhythms to avoid repetition of one, or very few elements throughout the building. Examples of building rhythm include horizontal and vertical banding with different colors or materials, groupings of windows, regular or repetition of storefront details, or consistent sign design and placement.

In townhouse and multi-family projects, repetitive floor plans should be alternately reversed and exterior elevations, roof planes, and exterior appurtenances should be varied to avoid monotony.

Building Facade

External details in building facades, entries, stairways, retaining walls and other features provide visual interests, enrichment and texture to buildings. New developments should incorporate the use of strong vertical and/or horizontal reveals, off-sets, and three dimensional detail between

surface planes to create shadow lines and break up flat surface areas. If large blank surfaces are proposed, they should be for some compelling design purpose, and the design should incorporate mitigating features to enrich the appearance of the project and provide a sense of human scale at the ground level that is inviting to the public.

Rear building elevations, especially those facing adjoining residential areas should be aesthetically enhanced with materials to match the front of the building. Exterior side yard setback areas (i. e., along side streets) and building elevations along these setbacks should be treated with the same quality of design and materials as the front setback area and front building elevations.

Roofing materials should be tile or other hard surface, durable materials. The use of asphalt shingles is discouraged.

Colors and Materials

Materials and colors in the area of the project should be considered when selecting the materials and colors used in the proposed project. Materials and colors can unify an area through the use of a clearly defined palette. Colors and materials should be selected for compatibility with the site, as well as compatibility with the neighboring area.

Consider selecting **materials and colors** that are compatible with the desert environment and help to reduce reflected heat and glare into exterior public areas. In a curtain wall application, glass should have a reflectivity of 20 percent or less. The use of reflective glass as a complete exterior surface is discouraged because of the great increase in reflected glare and heat.

All sides of a structure should exhibit design continuity. There should be no unimproved side to a structure. For instance, a mansard roof should be carried around all sides of the building, not just along the front.

Windows and Door Placement

Buildings and windows should be located to maximize the possibility of **occupant surveillance** of entryways, recreation and laundry areas. Children's play areas should be sited to allow for clear parental monitoring.

Relentless grids of repeated windows should be avoided. The patterns created by the window and door placement can help add variety and interest to the design.

Screening

All rooftop air conditioning and heating equipment must be screened from view in multi-family and commercial developments. Soft water tanks, gas meters, and electrical meters should also be screened from public view wherever possible. All screening shall be architecturally compatible with the primary structure. The screening should be part of the articulation of the building and not appear to be an afterthought. Sound attenuation to mechanical equipment is also encouraged.

On-Site Private Roadways

Local access drives are minor-level private roadways with a minimum width of twenty-four feet (24') of pavement that provide access to a limited number of individual dwelling units and their respective garage units, driveways or parking spaces. Local access drives typically are dead-ended and normally do not provide access to more than ten units. Garage and parking spaces may be located immediately adjacent to the local access drive. Parking is not permitted on a local access drive. Such drives shall intersect public streets in accordance with commercial driveway standards acceptable to the Department of Public Works. The intersection of private drives on-site shall be in accordance with the radii requirements of the Department of Fire Services. Curbing adjacent to access drives is not mandatory; under circumstances approved by the Department of Public Works, an inverted cross-section with a four foot (4') concrete gutter may be allowed to control drainage.

Collector access drives provide the main circulation network within a development and must be of sufficient width to accommodate traffic and any parallel "on-drive" parking spaces. Parking spaces perpendicular to the collector drives may be located immediately adjacent to the collector access drives as long as no sight visibility restrictions occur. Garage units may have direct access to the collector access drive as long as a driveway, meeting current parking space depth standards, is provided between the face of the garage door and the edge of the collector access drive.

Private streets normally occur in single family developments where the homes are located on individually owned lots and the street and any common landscaped open space areas are held in common. Where such streets function the same as would a local "public" street, the private streets shall be constructed to meet current City Standards. Private streets shall have a minimum of thirty-six (36) lineal feet of driving surface and shall incorporate an "L" type or rolled curb and gutter unless otherwise approved by the Department of Public Works. Garage units may have direct access to the private street as long as a driveway, meeting current parking space depth standards, is provided between the face of the garage door and the edge of the private street. Curb returns shall be incorporated in the design of the intersections of connecting private streets and public streets.

All private roadways are subject to the requirements of the Las Vegas Municipal Code which provides requirements for the **naming of streets and the assignment of addresses**. Street name signs shall clearly identify the private nature of the street and shall be sized in accordance with the Uniform Standard Drawings for Public Works Construction.

No private street may be constructed as the direct **linkage between two public streets** except where approved by the Department of Public Works. A traffic study acceptable to the Department of Public Works must be submitted with any request to create such connection.

On-Site Private Sidewalks

Sidewalks are not required along **private roadways** within a controlled access residential community except where necessary to provide access between occupied areas and a common area. However, handicapped access must be incorporated in all required access pathways.

In developments where **substantial traffic volumes** occur on certain stretches on on-site drives (such as where the main drives connect to the abutting public streets), a sidewalk may be necessary to separate pedestrian and vehicular movements. Sidewalks should be articulated with decorative materials such as brick, colored or textured concrete or accent strips.

Minimum Access Requirements

The minimum number of required **entrances into any residential development** shall be as follows:

- When there are less than fifty (50) units in the development, one active entrance is required.
- When there are from fifty (50) to ninety-nine (99) units, two (2) active entrances or one (1) active and one (1) emergency entrance will be required.
- When there are one hundred (100) or more dwelling units, a minimum of two (2) active entrances shall be required. However, when the development will contain one hundred (100) to one hundred ninety-nine (199) dwelling units and the developer proposes to provide a single active entrance, an Access Drive Analysis Report shall be provided to the City's Traffic Engineering Division which specifically addresses the adequacy of a single active entrance. If the criteria for testing adequacy meets or exceeds level of service "C" for the roadway and its intersection with the collector roadway, then one (1) active entrance and one (1) additional emergency entrance may be acceptable.

Driveway Design Criteria

This section provides minimum and desirable **design criteria**, provisions and requirements for safe and convenient access to abutting private property along streets and highways. The intent is to assure that access is provided to abutting private property with a minimum of interference with free and safe movement of vehicular traffic, and to prevent traffic congestion arising from vehicular entry to or exit from abutting private property. The right of the public to free and unhampered passage on public streets shall be paramount to other interests. Regulated limitation of access is necessary on major roadways in order to enhance their primary function of mobility. Conversely, the primary function of local roads and streets is to provide access.

The **angle of the driveway approach** shall be approximately 90 degrees for two-way driveways and 45 to 90 degrees for one-way driveways.

Unless approved by the Department of Public Works, **one-way driveways** shall be prohibited on two-way undivided streets. In addition, one-way driveways are limited to developments where two-way access is unfeasible because of special design considerations, such as severe site constraints, the need for circular drop-offs or other circumstances where one-way circulation may be preferred to two-way access. Examples of such developments include public and private schools, day care facilities, car wash facilities and existing developments or small sites where two-way circulation is impractical.

Where **one-way access** is proposed, development shall be designed to prevent conflicts with traffic access, parking and on-site circulation. Priority, however, shall be directed towards reducing the number of driveway approaches along roadways with ROW greater than sixty feet (60') in order to limit conflict points and enhance traffic flows along such roadways. All divided entry driveways, where the one-way roadways are separated by more than fifteen feet (15') (measured from edge to edge), must be signed for one-way operation.

Areas used as motor vehicle **service stations or parking lots** shall have a six inch (6") raised curb at the property line along the entire street frontage except at the driveway approaches and access sidewalks.

There are **two types of driveways**:

- **TYPE 1** - A concrete driveway approach designed and intended to serve as access from a roadway to a lot or parcel of land which is a location for a one (1) or two (2) family residence. Standard drawing No. 222 provides appropriate geometry for Type 1 driveways (also known as "dust pan" driveways).
- **TYPE 2** - A concrete driveway approach designed and intended to serve as access from a roadway to a lot or parcel of land use for any development or purpose other than one (1) or two (2) family residences. Standard Drawing No. 222A provides appropriate geometry for Type 2 driveways (also known as "commercial" driveways).

Except where **Type 1** driveways are appropriate, head-in/back-up parking is prohibited on all streets except with the approval of Department of Public Works.

All driveways must be constructed within the street frontage of the subject property, as determined by extending the side property lines to the curb line. Neither the driveway nor the curb returns shall overlap adjacent property frontage without written approval from the adjacent property owner or a written waiver from the Director of Public Works.

Common, or shared, driveways may be approved provided that a permanent written access easement is executed.

Type 2 driveways may not exceed 65 percent of the roadway frontage.

All **Type 2 driveways on undivided arterial streets** shall be designed to align with opposing streets or driveways or be offset by a minimum of 120 feet (measured from edge to edge).

All **Type 2 driveways on divided streets** shall be designed to align with median breaks or be offset by a minimum of 100 feet (measured from nose of the median to the nearest edge of the driveway).

Alignment of driveways with opposing streets is discouraged for signalized intersections unless approved by the Department of Public Works. When approved, the driveway approach must be constructed in conformance with Standard Drawing No. 222A, and the width must be increased to match the opposing street.

Access drives used for a **drive-through bank or parking garage** may have driveway approaches as approved by the Department of Public Works. These approaches shall be used for drive-in facilities only, and shall not be used for angle or head-in parking.

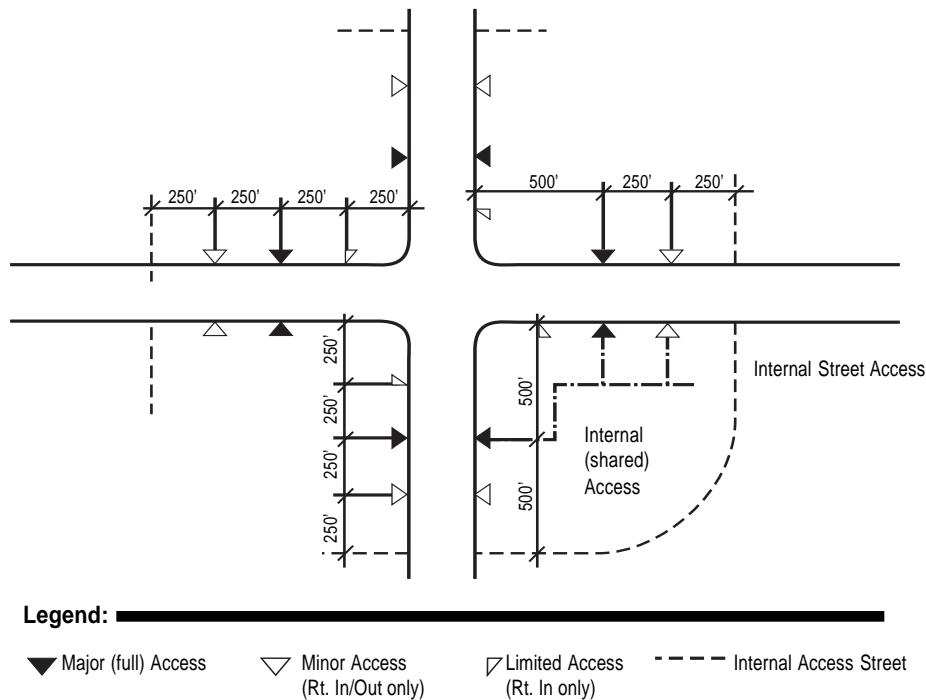
It is desirable to **minimize the number of driveways** on an arterial street in order to reduce the number of conflict points and facilitate traffic flow. The dimensions for minimum spacing, shown in Figure 1, should be increased whenever possible so that the number of driveways can be reduced. It is recognized, however, that certain existing tracts may not be able to fully comply with these standards due to limited frontage or other constraints. When compliance with the criteria is precluded due to the location of driveways on adjoining properties, attempts should be made to obtain alternative access where feasible, including joint access driveways, access easements to adjoining properties or access to intersecting streets.

Commercial subdivisions which will result in multiple building sites must provide a **master driveway plan** in order to ensure shared access from parking areas to the street.

The **throat lengths for Type 2 driveways** may be reduced, if approved by the Department of Public Works, after considering the following factors:

- Physical constraints on the site, such as existing structures;
- The impact upon on-site circulation;
- Shallow lot depths or unusual lot configurations;
- Traffic volumes and classification on the driveway and intersecting street;
- Alternatives to the proposed design;

Figure 1
Typical Intersection Access



- Other information presented by the applicant; and
- For existing sites, the extent of redevelopment proposed.

For building sites that face on any road right-of-way between 80 to 100 feet in width, a **right turn deceleration lane** will be necessary for any driveway that will serve a parking lot with 300 or more parking spaces. In addition, fast food facilities and other high traffic land uses may also be required to provide right turn lanes.

The **driveway profile** should be designed in accordance with the *Uniform Standard Drawings for Public Works Construction Off-Site, Clark County, Nevada*. The standards are intended to limit abrupt changes in grades, eliminate the need for extremely low speeds, and provide adequate vehicle clearance.

Bus pull-outs must conform to the *Uniform Standard Drawings for Public Works Construction Off-Site, Clark County, Nevada*.

Channelized islands for limiting movements into or out of driveways and which are located in the public right-of-way may be utilized, provided that the applicant establishes a maintenance agreement with the City.

Existing driveways may be required to conform with the standards in this policy, including closing driveways or constructing curbs where appropriate, as a condition of the approval of an application for zoning, rezoning or site plan approval. In implementing a change in existing driveways, the Department of Public Works may consider to any one of the following factors:

- The impact of the driveway closure upon on-site circulation;
- The extent to which the existing driveways deviate from the City standards;
- The extent to which the present driveways would allow existing or potential traffic movements which are unsafe or which have an adverse effect on traffic operations;
- The physical or economic feasibility of strict compliance with the standards in this policy due to the presence of curb inlets, utility poles, topographical constraints or similar circumstances; and
- Any additional information that the applicant may submit.

Surface Parking Design

The principal **design objective** for any off-street parking facility is the provision of safe customer service and convenience coupled with minimal interference to street traffic flow. The City's "Landscape, Wall and Buffer Standards" provides standards for parking lot landscaping and layout.

The following **supplemental guidelines** have been developed as an aid in designing parking facilities in conformance with accepted principles of traffic engineering and safety. These guidelines and principles will be routinely applied during the site development plan review process. The Department of Public Works may allow deviations from these standards if there is sufficient justification to use alternative designs. Such reasons will generally be limited to severe environmental or topographical constraints associated with a specific site or to questions of traffic safety unique to a specific site that are not adequately addressed by the guidelines.

Parking areas should be **buffered from adjacent residential properties**. Access drives, internal circulation drives, parking areas, and pedestrian walkways should be designed to provide safety and convenience for both motorist and pedestrians and to insure access for the physically disabled. Surface parking design should utilize shared access drives with adjacent, similarly zoned properties to reduce interference with pedestrians. The number of curb cuts should be minimized and pedestrian access enhanced. Pavement materials should be chosen to minimize reflected light and glare.

Generally, **commercial parking lots** will not be permitted to access local or collector streets if adequate access is available to major streets. Non-residential traffic on local streets should be minimized and directed away from neighborhoods.

Textures, patterns and colors are encouraged in the design of paved parking areas or entries. Large monolithic areas of single-color untextured paving are discouraged. Colored and textured paving of project entry drives, and parking court entries are encouraged to soften the streetscape.

Specific needs for business exposure or residential amenity may require parking oriented to the street. In such cases, the landscape plan should provide for screening of cars from view and trees to shade the parking area.

Standards shall not be compromised in order to achieve a greater number of parking spaces. All parking facilities shall be designed and constructed in accordance with the dimensions provided in Chapter 19.10 - "Parking, Loading and Traffic Standards" of the *Las Vegas Municipal Code*.

Large parking lots should be **functionally divided** by internal circulation corridors or aisles into several smaller lots to prevent random or high speed movements. The maximum number of spaces within such a sub-lot shall be 400 spaces, with 300 or less being desirable.

End aisles should be used to delineate primary traffic aisles. **Concrete or landscaped islands** in lieu of painted areas shall be provided in order to prevent vehicles from parking in such areas and thereby obstructing sight distance triangles and eliminating maneuvering room on turns. **End islands** are not provided in order to “protect” the end vehicle of a bay from turning vehicles, but rather to provide a definitive end to the bay.

Parking is discouraged along **entrance drives**, especially on the inbound direction side and adjacent to major circulation aisles of large developments and retail centers.

Where **angle parking** is used, the angle and design of parking spaces and aisles shall be relatively consistent throughout a unified development. One-way angled parking aisles shall be designed to alternate the direction for adjacent aisles. Proper signs and markings shall be required to reinforce traffic circulation and flow.

Each parking space shall be independently accessible and have a **vertical clearance** of not less than 7.5 feet.

Each parking and loading space shall have adequate drives, aisles and turning and maneuvering areas for access and usability. No parking stall shall be designed to require or allow backing into a public right-of-way.

Parking spaces should be located in such a manner as to be **convenient to the uses** which they serve. No more than ten (10) percent of all the required spaces should be located in the service areas at the rear of the shopping centers and in other locations with poor pedestrian access to the building entrances.

Signs and curb markings may be required to indicate “No Parking - Fire Lane”. Access aisles should be designed with an appropriate 25 foot inside **turning radius** and a 50 foot outside turning radius at turns to accommodate operational fire division apparatus.

Parking and loading facilities shall be **surfaced and maintained** with asphaltic concrete, portland cement concrete or other permanent hard surfacing material sufficient to prevent mud, dust, loose material and other nuisances. Materials may be pervious.

Safety barriers, fencing, wheel stops or curbing or other restrictive barriers and directional markers may be provided to assure safety, efficient utilization, protection to landscaping and to prevent encroachment onto adjacent public or private property.

Visibility should be maximized for vehicles entering individual parking spaces, circulating within a parking facility and entering and exiting a parking facility.

Each parking space intended for use by the **handicapped** shall be designed in accordance with the City and Federal Standards.

Queuing

Queuing spaces or queuing areas shall not interfere with parking spaces, parking aisles, loading areas, internal circulation or driveway access.

Each queue space shall consist of a rectangular area not less than 10 feet wide and 18.5 feet long with a vertical clearance of not less than 7.5 feet. Queue spaces are not interchangeable with parking spaces.

A **12-foot wide by-pass lane** may be required adjacent to queue lines to

allow vehicles an opportunity to circumvent the drive-through activity or leave the queue and exit the site.

Although **drive-through activities** are not required to be completely separated from activities on site, the queuing area should be designed to enable the driver to readily identify and distinguish queuing areas from other activities on site. It is strongly recommended that queues and service areas be located to avoid conflicts with parking and circulation areas.

Internal Circulation

Parking and circulation aisles should be perpendicular to the entry faces of buildings to minimize conflicting movements by pedestrians and vehicles.

Parking along the curb line adjacent to building fronts should be discouraged to provide for good pedestrian visibility. The designation of the building front curb as a fire lane to aid in the enforcement of the parking prohibition is encouraged.

The application of **speed bumps and humps** to reduce internal travel speeds is discouraged for new construction. Properties and circulation aisles should instead be configured to reduce speeds.

Continuous **travelways adjacent to building fronts** should be no more than 400 feet in length to discourage high speeds and to reduce conflicting pedestrian and vehicular movements.

Internal driveways or parking aisles shall intersect at angles of between 80 and 100 degrees, with 90 degrees being preferred. Internal driveways or aisles that are intersected by crossing traffic shall either have their centerlines aligned or offset by at least 60 feet.

Traffic squares or circles are generally discouraged. Squares or circles may be allowed in low-traffic areas if designed to encourage one-way traffic flow and if the number of intersecting driveways or aisles is minimized.

All **semi-circular drop-off driveways** shall be designed to operate in one (1) direction only.

All **internal circulation and queuing areas** must be designed to accommodate the turning radii of the vehicles that will be using the site. The critical design criteria are provided by the American Association for State Highway and Transportation Officials (AASHTO) for various design vehicles according to their wheelbase.

The minimum **width for an internal drive** or circulation aisle with no parking should be 24 feet for two-way traffic and 12 feet for one-way traffic. A greater width, up to 25 feet for two-way traffic and 15 feet for one-way traffic, may be required where traffic volumes are heavy or where obstructions or circuitous alignment necessitates a wider drive for clearance of turning vehicles. Department of Fire Services access criteria must also be met.

Parking Structure Design

Parking structures tend to be utilitarian in **appearance**. However, because of their size, they often become a major visual element of the site. Parking structures should therefore be integrated with the form and materials of the primary site structures.

Lighting within the parking structure should provide safety and security and be integrated into the architectural character both in terms of illumination and fixtures. Lighting must provide safety but not be offensive to off-site uses.

Staging areas should be designed to accommodate the required queuing within the site and not on the street. Staging must not interfere with street movement or pedestrian circulation. An appropriate view angle and pedestrian crossing at exits and entrances should be provided in all parking structures. Parking ingress and egress should not interfere with street movement or pedestrian circulation.

There should be a convenient, clear, safe and efficient **internal circulation system** within the parking structure for both vehicular and pedestrian traffic including appropriate signage and placement of pedestrian circulation cores (elevators and stairs). Parking structures should provide clarity, safety and be convenient for the user.